proposals from the retired scientists under the scheme entitled 'Emeritus Scientist Scheme'. Agriculture, animal husbandry, fisheries and basic sciences relating to agriculture are the areas of research support. The duration of the support is for 2 years in the first instance but is extendable for another 2 years in especially deserving cases.

University Grants Commission (UGC) also supports the retired scientists/professors under the 'Emeritus Fellowship' scheme. In addition there is book-writing programme in UGC given to superannuated Professors in the various fields of specialization. For continuing the interest of elderly scientists in research field support is provided by UGC. All these supports are provided to the scientist/professors upto the age of 65 years.

However, the Departments of Biotechnology, Electronics Space and Atomic Energy do not operate such schemes.

अंतरिक्ष विभाग के अन्तर्गत विभिन्न क्षेत्रों का निजीकरण

1376. **मौलाना अबैदुल्ला खान आजमी** : क्या **प्रधान मंत्री** यह बताने की कृपा करेंगे कि :

(क) क्या अन्तरिक्ष विभाग के अंतर्गत विभिन्न क्षेत्रों में निजीकरण किए जाने संबंधी कोई योजना सरकार के विचाराधीन हैं ; और

(ख) यदि हां, तो उसका ब्यौरा क्या है ?

कार्मिक, लोक शिकायत और पेंशन मंत्रालय में राज्य मंत्री (श्रीमती मारग्रेट आल्वा) : (क) और (ख) जी, नहीं । **फिर भी,** भारतीय अन्तरिक्ष अनुसंधान संगठन (इसरो) ने पिछले **शताब्दों में अन्तरिक्ष परियोजनाओं की जरूरतों को** पूरा करने के लिए तथा अन्तरिक्ष के लिए विकसित प्रौद्योगिकियों के प्रचक्रण वाणिज्यिक उपयोग को बढ़ावा देने के लिए; सार्वजनिक तथा निजी दोनों क्षेत्रों के राष्ट्रीय उद्योगों की गहन भागीदारी को मुख्य रूप में सुनिश्चित करने के लिए प्रौद्योगिकी अन्तरण कार्यक्रम को सक्रिय रूप में प्रोत्साहित किया है।

Space research programme

1377. SHRI VITHAL RAO MADHAVRAO JADHAV : Will the PRIME MINISTER be pleased to state :

(a) the details of the space reserch programmes at ISRO likely to be undertaken during the Eigth Five Year plan period; and

(b) the progress made in satellite launching and their SLVs of indigenous creation?

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (SHRIMATI MARGARET ALVA) : (a) During Eighth Five Year Plan the operational services in the areas of telecommunication, broadcasting, education, meteorology, disaster management and management of natural resources, provided by Indian National Satellite (INSAT) and Indian Remote Sensing Satellite (IRS) system will be sustained and augmented. Towards developing indigenous capability to launch operational satellites, Augmented Satellite Launch Vehicle (ASLV), Polar Satellite Launch Vehicle (PSLV), Geosynchronous Satellite Launch Vehicle (GSLV) are planned to be developed. The details are as follows :

(1) *INSAT System*

The existing INSAT system will be augmented with the proposed

launch of indigenous, second generation INSAT-7A, INSAT-2B, INSAT-2C and INSAT-2D satellites, beginning with the launch of INSAT-2A in June 1992. The work on third generation INSAT will be slated to ensure continuity of services beyond 2000 AD. Continuation of satellite aided search and rescue programme and introduction of mobile satellite services are also envisaged. Dedicated satellite GRAMSAT series for rural development and eradication of rural illiteracy will be initiated during this period.

(2) *IRS System*

The operational services provided by IRS-1A/1B satellites, already in orbit, will be continued. The indigenous second generation IRS-1C and IRS-1D satellites are planned to be launched with better spectral and spatial resolution during the Plan period for new thrust areas of application. A microwave remote sensing programme is also contemplated to compliment IRS system.

(3) *Lunch Vehicles*

The ongoing ASLV programme will be continued with the flight planned in 1992 for the launch of stretched Rohini Satellite Series (SROSS) satellite in low earth orbit. Launching of PSLV for putting IRS class of satellites in sun-synchronous polar orbit is planned with the first launch of PSLV being slated to take place in 1992. Development of GSLV, capable of placing INSAT class payloads in geo-stationary orbit, is also planned.

(4) *Space Science*

Besides continuing space science related studies using the infrastructure/facilities such as Indian Middle Atmosphere Programme (IMAP), SROSS satellites, infrared telescope etc., plans are afoot to initiate monsoon and climate modeling and ground based experiment for modeling atmosphere studies. The Mesosphere, Stratosphere & Troposphere (MST) Radar facility which has been partially operationalised as per schedule will be fully operationalised in 1993. Geosphere, Biosphere programme is initiated to study global environmental issues.

(b) Successful launch of eight satellites, all of them indigenously designed and developed such as ARYABHATA, BHASKARA (2 satellites), ROHINI (2 satellites), Ariane Passenger Payload Experiment (APPLE), and the fully operational satellites IRS-1A and IRS-1B demonstrates country's capability. The ninth indigenous second generation satellite, INSAT 2 A, is ready for launch to meet the increasing requirements of the country's communication, TV broadcasting and meteorological data relay services.

In the creation of indigeous satellite launch capability, ISRO has already demonstrated through the Satellite Launch Vehicle-3 (SLV-3) Programme a capability to launch 50 kg class satellites successfully. Efforts are on to enhance the capability to 150 kg through the ASLV programme. Next launch of ASLV is planned in mid 1992. Parallelly, indigenous capability to launch IRS class satellites by the PSLV is progressing well and the first launch is expected in an year's time. Development of GSLV to launch INSAT-2 class satellites has just started and the first launch is expected by 1995-96.

Delay in launching of INSAT-2A

1378. DR. NARREDDY THULASI REDDY : Will the PRIME MINISTER be pleased to state:

(a) by when INSAT-2A is likely to be launched ; and

(b) what are the reasons for the delay in launching?